Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

NATIONAL GUIDELINE CLEARINGHOUSE

General

Guideline Title

Final recommendation statement: healthful diet and physical activity for cardiovascular disease prevention in adults without known risk factors: behavioral counseling.

Bibliographic Source(s)

Final recommendation statement: healthful diet and physical activity for cardiovascular disease prevention in adults without known risk factors: behavioral counseling. [internet]. Rockville (MD): U.S. Preventive Services Task Force (USPSTF); 2017 Jul [7 p]. [24 references]

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: U.S. Preventive Services Task Force. Behavioral counseling interventions to promote a healthful diet and physical activity for cardiovascular disease prevention in adults: U.S. Preventive Services Task Force recommendation statement. Ann Intern Med. 2012;157(5):367-71.

This guideline meets NGC's 2013 (revised) inclusion criteria.

NEATS Assessment

National Guideline Clearinghouse (NGC) has assessed this guideline's adherence to standards of trustworthiness, derived from the Institute of Medicine's report Clinical Practice Guidelines We Can Trust.

= Poor = Fair = Good = Very Good = Excellent

Assessment	Standard of Trustworthiness
YES	Disclosure of Guideline Funding Source
	Disclosure and Management of Financial Conflict of Interests

	Guideline Development Group Composition
YES	Multidisciplinary Group
YES	Methodologist Involvement
▮▮▯▯▯	Patient and Public Perspectives
	Use of a Systematic Review of Evidence
▮▮▮▮▮	Search Strategy
▮▮▮▮▮	Study Selection
▮▮▮▮▮	Synthesis of Evidence
	Evidence Foundations for and Rating Strength of Recommendations
▮▮▮▮▯	Grading the Quality or Strength of Evidence
▮▮▮▮▮	Benefits and Harms of Recommendations
▮▮▮▮▮	Evidence Summary Supporting Recommendations
▮▮▮▮▮	Rating the Strength of Recommendations
▮▮▮▮▮	Specific and Unambiguous Articulation of Recommendations
▮▮▮▯▯	External Review
▮▮▮▮▮	Updating

Recommendations

Major Recommendations

The U.S. Preventive Services Task Force (USPSTF) grades its recommendations (A, B, C, D, or I) and identifies the levels of certainty regarding net benefit (High, Moderate, and Low). The definitions of these grades can be found at the end of the "Major Recommendations" field.

Recommendation Summary

The USPSTF recommends that primary care professionals individualize the decision to offer or refer adults without obesity who do not have hypertension, dyslipidemia, abnormal blood glucose levels, or diabetes to behavioral counseling to promote a healthful diet and physical activity. Existing evidence indicates a positive but small benefit of behavioral counseling for the prevention of cardiovascular disease (CVD) in this population. Persons who are interested and ready to make behavioral changes may be most likely to benefit from behavioral counseling. (C recommendation)

Clinical Considerations

Patient Population under Consideration

This recommendation applies to adults 18 years or older who are of normal weight or overweight, with a body mass index (BMI) between 18.5 and 30 (calculated as weight in kilograms divided by the square of height in meters). It does not apply to persons who have known CVD risk factors (hypertension, dyslipidemia, abnormal blood glucose levels, or diabetes) or persons with obesity or who are underweight.

Behavioral Counseling Interventions

The USPSTF reviewed 88 trials with more than 120 distinct interventions focused on promoting a healthful diet, physical activity, or both. Dietary messages documented in the interventions typically focused on general heart-healthy eating patterns (increased consumption of fruits, vegetables, fiber, and whole grains; decreased consumption of salt, fat, and red and processed meats). This guidance is generally consistent with major dietary recommendations, including the U.S. Department of Health and Human Services' 2015–2020 Dietary Guidelines for Americans. Similarly, national guidelines suggest that US adults should perform at least 150 minutes of moderate-intensity or at least 75 minutes of vigorous-intensity physical activity per week, or an equivalent combination of moderate- and vigorous-intensity physical activity, and also should perform strengthening activities at least twice per week. Physical activity messages used in the reviewed interventions emphasized gradually increasing aerobic activities to recommended levels, with many studies emphasizing walking.

Interventions categorized as low intensity included print- or Web-based materials with tailored feedback and tools for behavior change, ranging from 1-time mailings to monthly mailings over 3 years. Medium- and high-intensity interventions commonly included face-to-face individual or group counseling or both, with telephone, email, and text message follow-up. These more intensive interventions ranged in duration from 4 weeks to 6 years, with the active intervention period often lasting for 6 months. Interventions were delivered by primary care clinicians, health educators, behavioral health specialists, nutritionists or dieticians, exercise specialists, and lay coaches. Behavioral change techniques included goal setting and planning, monitoring and feedback, motivational interviewing, addressing barriers to change, increasing social support, and general education and advice. Adherence to all interventions was relatively high; adherence to high-intensity interventions was generally lower than for less-intensive interventions. Overall, there appeared to be a dose-response effect, with higher-intensity interventions demonstrating greater and statistically significant benefits. However, this dose-response effect was not seen for interventions targeting physical activity only, among which some low-intensity interventions demonstrated benefit.

Additional Approaches to Prevention

The USPSTF recognizes the important contributions of public health approaches to improving diet, increasing physical activity levels, and preventing CVD. The Community Preventive Services Task Force recommends several community-based interventions to promote physical activity, including community-wide campaigns, social support interventions, school-based physical education, and environmental and policy approaches. It also recommends programs promoting healthful diet and physical activity for persons at increased risk for type 2 diabetes on the basis of strong evidence of the effectiveness of these programs in reducing the incidence of new-onset diabetes.

Useful Resources

The USPSTF has evaluated the evidence on several aspects of CVD prevention in adults with and without common risk factors, including behavioral counseling interventions to promote a healthful diet and physical activity for CVD prevention in adults with cardiovascular risk factors, screening for and management of obesity in adults, and screening for abnormal blood glucose levels and type 2 diabetes mellitus.

In other recommendation statements, the USPSTF had recommended screening for high blood pressure, use of statin medications in persons at risk for CVD, screening and counseling for tobacco smoking cessation, and aspirin use in certain persons for CVD primary prevention.

In addition, the U.S. Department of Health and Human Services has published national dietary and

physical activity guidelines for Americans.

Definitions

What the U.S. Preventive Services Task Force (USPSTF) Grades Mean and Suggestions for Practice

Grade	Definition	Suggestions for Practice
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.	Offer or provide this service.
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.	Offer or provide this service.
C	The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.	Offer or provide this service for selected patients depending on individual circumstances.
D	The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.	Discourage the use of this service.
I Statement	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality or conflicting, and the balance of benefits and harms cannot be determined.	Read the "Clinical Considerations" section of the USPSTF Recommendation Statement (see the "Major Recommendations" field). If the service is offered, patients should understand the uncertainty about the balance of benefits and harms.

USPSTF Levels of Certainty Regarding Net Benefit

Definition: The U.S. Preventive Services Task Force defines certainty as "likelihood that the USPSTF assessment of the net benefit of a preventive service is correct." The net benefit is defined as benefit minus harm of the preventive service as implemented in a general, primary care population. The USPSTF assigns a certainty level based on the nature of the overall evidence available to assess the net benefit of a preventive service.

Level of Certainty	Description
High	The available evidence usually includes consistent results from well-designed, well-conducted studies in representative primary care populations. These studies assess the effects of the preventive service on health outcomes. This conclusion is therefore unlikely to be strongly affected by the results of future studies.
Moderate	The available evidence is sufficient to determine the effects of the preventive service on health outcomes, but confidence in the estimate is constrained by factors such as: The number, size, or quality of individual studies Inconsistency of findings across individual studies Limited generalizability of findings to routine primary care practice Lack of coherence in the chain of evidence As more information becomes available, the magnitude or direction of the observed effect could change, and this change may be large enough to alter the conclusion.
Low	The available evidence is insufficient to assess effects on health outcomes. Evidence is insufficient because of: The limited number or size of studies Important flaws in study design or methods Inconsistency of findings across individual studies

Level of Certainty	Description
	Gaps in the chain of evidence Findings not generalizable to routine primary care practice A lack of information on important health outcomes More information may allow an estimation of effects on health outcomes.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Cardiovascular disease (CVD)

Guideline Category

Counseling

Prevention

Clinical Specialty

Family Practice

Internal Medicine

Preventive Medicine

Intended Users

Advanced Practice Nurses

Nurses

Physician Assistants

Physicians

Guideline Objective(s)

To update the 2012 U.S. Preventive Services Task Force (USPSTF) recommendation statement on behavioral counseling to promote a healthful diet and physical activity in adults without known cardiovascular disease (CVD) risk factors

Target Population

Adults 18 years or older who are of normal weight or overweight, with a body mass index (BMI) between 18.5 and 30

Note: This recommendation does not apply to persons who have a known cardiovascular disease (CVD) risk factor (hypertension, hyperlipidemia, abnormal glucose levels, or diabetes) or persons with obesity or who are underweight.

Interventions and Practices Considered

Offering or referral to behavioral counseling interventions

Major Outcomes Considered

- Key Question 1: Do primary care behavioral counseling interventions to improve diet, increase physical activity, and/or reduce sedentary behavior improve health outcomes in adults?
- Key Question 2: Do primary care behavioral counseling interventions to improve diet, increase physical activity, and/or reduce sedentary behavior improve intermediate outcomes associated with cardiovascular disease in adults?
- Key Question 3: Do primary care behavioral counseling interventions to improve diet, increase physical activity, and/or reduce sedentary behavior improve associated health behaviors in adults?
- Key Question 4: What adverse events are associated with primary care behavioral counseling interventions to improve diet, increase physical activity, and/or reduce sedentary behavior in adults?

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Note from the National Guideline Clearinghouse (NGC): A systematic evidence review was prepared by the Kaiser Permanente Research Affiliates Evidence-based Practice Center for the U.S. Preventive Services Task Force (USPSTF) (see the "Availability of Companion Documents" field).

Data Sources and Searches

This review was designed as an extension of 2 prior systematic reviews conducted by the Kaiser Permanente Research Affiliates Evidence-based Practice Center for the USPSTF that focused on healthful diet and physical activity counseling for cardiovascular disease (CVD) prevention among individuals with and without known CVD risk factors (i.e., hypertension, dyslipidemia, diabetes, or impaired fasting glucose). As such, relevant studies from those reviews were reevaluated for potential inclusion. Then, the following databases were searched for new relevant English-language literature published between January 1, 2013, and May 25, 2016: MEDLINE, PubMed (publisher-supplied records only), PsycINFO, and the Cochrane Central Register of Controlled Trials (see eMethods in the systematic review supplement). Collectively, the literature searches encompassed literature published from 1966 through May 25, 2016. The database searches were supplemented by reviewing bibliographies from other relevant literature and from expert suggestions. ClinicalTrials.gov and the World Health Organization International Clinical Trials Registry Platform were searched for ongoing trials. Since May 2016, ongoing surveillance was conducted using searches of a subset of core clinical journals identified by the USPSTF to identify major studies published in the interim that may affect the conclusions or understanding of the evidence and therefore the related USPSTF recommendation. The last surveillance was conducted on March 24, 2017, and identified no new studies.

Study Selection

Two reviewers independently reviewed all identified titles and abstracts and relevant full-text articles

against prespecified inclusion and exclusion criteria (see eTable 1 in the systematic review supplement). Discrepancies were resolved through discussion and consensus. Eligible studies were fair- and good-quality randomized clinical trials that evaluated the effectiveness of primary care–relevant interventions focused on improving dietary habits, increasing physical activity, and/or reducing sedentary time with the primary aim of CVD primary prevention among adults 18 years or older. Studies were excluded from this review if they (1) targeted persons with known CVD, hypertension, dyslipidemia, diabetes, impaired fasting glucose or glucose tolerance, or a combination of these factors; (2) targeted persons categorized as high risk based on a cardiovascular risk–assessment tool; or (3) generically stated that participants must have 1 or more CVD risk factors to be included. In contrast, studies in adults who may be at elevated risk for CVD based on factors such as age, race/ethnicity, family history of CVD, overweight or obesity, high-normal blood pressure, or history of gestational diabetes, as well as those conducted among unselected samples or samples selected because of suboptimal behavior (e.g., did not meet national physical activity guidelines) were included. Eligible interventions were those conducted in primary care or referred from primary care, or those deemed feasible for primary care or referral given the nature of the intervention delivery (e.g., face-to-face counseling, telephone support), behavior change techniques (e.g., goal setting, self-monitoring), or setting (e.g., home, community). Studies had to report a behavioral outcome (i.e., diet-, physical activity–, sedentary time–related measure), intermediate outcome (e.g., blood pressure, lipid levels, weight, incidence of hypertension), or health outcome (i.e., morbidity, mortality, health-related quality of life) or report adverse events related to the intervention.

Number of Source Documents

See the literature search flow diagram (Figure 2) in the systematic review (see the "Availability of Companion Documents" field) for a summary of evidence search and selection.

Articles included for Key Questions:

- Key Question 1: 25 (12 trials)
- Key Question 2: 63 (34 trials)
- Key Question 3: 138 (86 trials)
- Key Question 4: 17 (14 trials)

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Two reviewers independently assessed the methodological quality of all eligible studies, using criteria outlined by the U.S. Preventive Services Task Force (USPSTF) (see eTable2 in the systematic review supplement). Each study was assigned a final quality rating of good, fair, or poor; disagreements between the investigators were resolved through consensus after discussion and consultation with additional investigators.

Methods Used to Analyze the Evidence

Meta-Analysis of Randomized Controlled Trials

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Note from the National Guideline Clearinghouse (NGC): A systematic evidence review was prepared by the Kaiser Permanente Research Affiliates Evidence-based Practice Center for the U.S. Preventive Services Task Force (USPSTF) (see the "Availability of Companion Documents" field).

Data Extraction and Quality Assessment

Two reviewers independently assessed the methodological quality of all eligible studies, using criteria outlined by the USPSTF (see eTable2 in the systematic review supplement). Each study was assigned a final quality rating of good, fair, or poor; disagreements between the investigators were resolved through consensus after discussion and consultation with additional investigators. Studies were rated as poor quality and excluded if they had several important major risks of bias, including very high attrition at 6 to 12 months (e.g., greater than 40%), differential attrition between intervention groups (e.g., greater than 20%), lack of baseline comparability between groups without adjustment for those variables, or other issues in the conduct, analysis, or reporting of results of the trial that were judged to considerably bias the results (e.g., possible selective reporting, inappropriate exclusion of participants from analyses, and questionable validity of randomization and allocation concealment procedures). One reviewer completed primary data abstraction, and a second reviewer checked all data for accuracy and completeness.

Data Synthesis and Analysis

Summary tables were created for study characteristics, population characteristics, intervention characteristics, and outcomes. The data on health outcomes (KQ1) and adverse events (KQ4) did not allow for pooled analyses and so were summarized descriptively. For intermediate health outcomes (KQ2) and behavioral outcomes (KQ3), random-effects meta-analyses using the method of DerSimonian and Laird were run to calculate the pooled differences in mean changes (for continuous data) and pooled odds ratio (for binary data). The between-group difference for each outcome as reported by each respective study was pooled favoring adjusted over unadjusted reported effect estimates. If a between-group effect estimate and variance were not provided, a crude effect estimate was calculated. Within each study, 1-year outcome data were chosen for meta-analyses if available; otherwise, the point closest to 1 year was chosen. If a trial had more than 1 active intervention group, data for the most intensive group or the group that was the most similar with other interventions included in the analysis were plotted. Methods consistent with the previous review were used to estimate and categorize the intensity (total contact in minutes) of each intervention group as low (≤30 minutes), medium (31-360 minutes), or high (>360 minutes). Results at all other points and for all intervention groups within each trial were reported in tabular format.

Statistical heterogeneity among the pooled studies was examined using standard χ^2 tests, and the proportion of total variability in point estimates was approximated using the I^2 statistic.

Visual displays were first used to investigate whether the heterogeneity among the results was associated with any pre-specified population or intervention characteristics; meta-regression was then used when indicated. To evaluate small-study effects, funnel plots and the Egger test (for continuous outcomes) or Peters test (for dichotomous outcomes) were used. Stata version 13.1 (Stata Corp) was used for all quantitative analyses. All significance testing was 2-sided, and results were considered statistically significant at P <.05.

The strength of the overall body of evidence for each KQ was graded as high, moderate, low, or insufficient based on established methods and addressed the consistency, precision, reporting bias, study quality, and dose response related to each outcome.

Methods Used to Formulate the Recommendations

Balance Sheets

Expert Consensus

Description of Methods Used to Formulate the Recommendations

The U.S. Preventive Services Task Force (USPSTF) systematically reviews the evidence concerning both the benefits and harms of widespread implementation of a preventive service. It then assesses the certainty of the evidence and the magnitude of the benefits and harms. On the basis of this assessment, the USPSTF assigns a letter grade to each preventive service signifying its recommendation about provision of the service (see table below). An important, but often challenging, step is determining the balance between benefits and harms to estimate "net benefit" (that is, benefits minus harms).

U.S. Preventive Services Task Force Recommendation Grid*

Certainty of Net Benefit	Magnitude of Net Benefit			
	Substantial	Moderate	Small	Zero/Negative
High	A	B	C	D
Moderate	B	B	C	D
Low	Insufficient			

**A*, *B*, *C*, *D*, and *I (Insufficient)* represent the letter grades of recommendation or statement of insufficient evidence assigned by the USPSTF after assessing certainty and magnitude of net benefit of the service (see the "Rating Scheme for the Strength of the Recommendations" field).

The overarching question that the USPSTF seeks to answer for every preventive service is whether evidence suggests that provision of the service would improve health outcomes if implemented in a general primary care population. For screening topics, this standard could be met by a large randomized controlled trial (RCT) in a representative asymptomatic population with follow-up of all members of both the group "invited for screening" and the group "not invited for screening."

Direct RCT evidence about screening is often unavailable, so the USPSTF considers indirect evidence. To guide its selection of indirect evidence, the Task Force constructs a "chain of evidence" within an analytic framework. For each key question, the body of pertinent literature is critically appraised, focusing on the following 6 questions:

> Do the studies have the appropriate research design to answer the key question(s)?
> To what extent are the existing studies of high quality? (i.e., what is the internal validity?)
> To what extent are the results of the studies generalizable to the general U.S. primary care population and situation? (i.e., what is the external validity?)
> How many studies have been conducted that address the key question(s)? How large are the studies? (i.e., what is the precision of the evidence?)
> How consistent are the results of the studies?
> Are there additional factors that assist the USPSTF in drawing conclusions (e.g., presence or absence of dose–response effects, fit within a biologic model)?

The next step in the USPSTF process is to use the evidence from the key questions to assess whether there would be net benefit if the service were implemented. In 2001, the USPSTF published an article that documented its systematic processes of evidence evaluation and recommendation development. At that time, the USPSTF's overall assessment of evidence was described as good, fair, or poor. The USPSTF realized that this rating seemed to apply only to how well studies were conducted and did not fully capture all of the issues that go into an overall assessment of the evidence about net benefit. To avoid confusion, the USPSTF has changed its terminology. Whereas individual study quality will continue to be characterized as good, fair, or poor, the term *certainty* will now be used to describe the USPSTF's assessment of the overall body of evidence about net benefit of a preventive service and the likelihood that the assessment is correct. Certainty will be determined by considering all 6 questions listed above; the judgment about certainty will be described as high, moderate, or low.

In making its assessment of certainty about net benefit, the evaluation of the evidence from each key question plays a primary role. It is important to note that the USPSTF makes recommendations for real-world medical practice in the United States and must determine to what extent the evidence for each key question—even evidence from screening RCTs or treatment RCTs—can be applied to the general primary care population. Frequently, studies are conducted in highly selected populations under special conditions. The USPSTF must consider differences between the general primary care population and the populations studied in RCTs and make judgments about the likelihood of observing the same effect in actual practice.

It is also important to note that one of the key questions in the analytic framework refers to the potential harms of the preventive service. The USPSTF considers the evidence about the benefits and harms of preventive services separately and equally. Data about harms are often obtained from observational studies because harms observed in RCTs may not be representative of those found in usual practice and because some harms are not completely measured and reported in RCTs.

Putting the body of evidence for all key questions together as a chain, the USPSTF assesses the certainty of net benefit of a preventive service by asking the 6 major questions listed above. The USPSTF would rate a body of convincing evidence about the benefits of a service that, for example, derives from several RCTs of screening in which the estimate of benefits can be generalized to the general primary care population as "high" certainty (see the "Rating Scheme for the Strength of Recommendations" field). The USPSTF would rate a body of evidence that was not clearly applicable to general practice or has other defects in quality, research design, or consistency of studies as "moderate" certainty. Certainty is "low" when, for example, there are gaps in the evidence linking parts of the analytic framework, when evidence to determine the harms of treatment is unavailable, or when evidence about the benefits of treatment is insufficient. Table 4 in the methodology document listed below (see the "Availability of Companion Documents" field) summarizes the current terminology used by the USPSTF to describe the critical assessment of evidence at all 3 levels: individual studies, key questions, and overall certainty of net benefit of the preventive service.

Sawaya GF, Guirguis-Blake J, LeFevre M, Harris R, Petitti D; U.S. Preventive Services Task Force. Update on the methods of the U.S. Preventive Services Task Force: estimating certainty and magnitude of net benefit. Ann Intern Med. 2007;147:871-875. [5 references].

Rating Scheme for the Strength of the Recommendations

What the U.S. Preventive Services Task Force (USPSTF) Grades Mean and Suggestions for Practice

Grade	Definition	Suggestions for Practice
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.	Offer or provide this service.
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate, or there is moderate certainty that the net benefit is moderate to substantial.	Offer or provide this service.
C	The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.	Offer or provide this service for selected patients depending on individual circumstances.
D	The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.	Discourage the use of this service.
I	The USPSTF concludes that the current	Read the "Clinical Considerations" section of

Grade	Definition	Suggestions for Practice
Statement	evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality or conflicting, and the balance of benefits and harms cannot be determined.	the USPSTF Recommendation Statement (see the "Major Recommendations" field). If the service is offered, patients should understand the uncertainty about the balance of benefits and harms.

USPSTF Levels of Certainty Regarding Net Benefit

Definition: The USPSTF defines certainty as "likelihood that the USPSTF assessment of the net benefit of a preventive service is correct." The net benefit is defined as benefit minus harm of the preventive service as implemented in a general, primary care population. The USPSTF assigns a certainty level based on the nature of the overall evidence available to assess the net benefit of a preventive service.

Level of Certainty	Description
High	The available evidence usually includes consistent results from well-designed, well-conducted studies in representative primary care populations. These studies assess the effects of the preventive service on health outcomes. This conclusion is therefore unlikely to be strongly affected by the results of future studies.
Moderate	The available evidence is sufficient to determine the effects of the preventive service on health outcomes, but confidence in the estimate is constrained by factors such as: The number, size, or quality of individual studies Inconsistency of findings across individual studies Limited generalizability of findings to routine primary care practice Lack of coherence in the chain of evidence As more information becomes available, the magnitude or direction of the observed effect could change, and this change may be large enough to alter the conclusion.
Low	The available evidence is insufficient to assess effects on health outcomes. Evidence is insufficient because of: The limited number or size of studies Important flaws in study design or methods Inconsistency of findings across individual studies Gaps in the chain of evidence Findings not generalizable to routine primary care practice A lack of information on important health outcomes More information may allow an estimation of effects on health outcomes.

Cost Analysis

The U.S. Preventive Services Task Force (USPSTF) does not consider the costs of providing a service in this assessment.

Method of Guideline Validation

Comparison with Guidelines from Other Groups

External Peer Review

Internal Peer Review

Description of Method of Guideline Validation

Peer Review

Before the U.S. Preventive Services Task Force (USPSTF) makes its final determinations about recommendations on a given preventive service, the Evidence-based Practice Center (EPC) and the Agency

for Healthcare Research and Quality (AHRQ) send the draft evidence review to 4 to 6 external experts and to Federal agencies and professional and disease-based health organizations with interests in the topic. The experts are asked to examine the review critically for accuracy and completeness and to respond to a series of specific questions about the document. The draft evidence review is also posted on the USPSTF Web site for public comment. After assembling these external review comments and documenting the proposed response to key comments, the topic team presents this information to the USPSTF in memo form. In this way, the USPSTF can consider these external comments before it votes on its recommendations about the service. Draft recommendation statements are then circulated for comment among reviewers representing professional societies, voluntary organizations, and Federal agencies, as well as posted on the USPSTF Web site for public comment. These comments are discussed before the final recommendations are confirmed.

Response to Public Comment

A draft version of this recommendation statement was posted for public comment on the USPSTF Web site from November 29, 2016, to January 2, 2017. A small number of comments were received, and all were reviewed by the USPSTF. A few respondents encouraged the USPSTF to issue separate recommendations for behavioral counseling interventions to promote a healthful diet and interventions to promote physical activity. Other respondents felt that the evidence base was different for the 2 types of behavioral counseling interventions and suggested that the USPSTF assign separate and different grades. The USPSTF carefully reviewed the evidence on interventions that promoted a healthful diet only, those that promoted physical activity only, and those that promoted both. The USPSTF recognizes that the evidence base for these interventions varies, and although the evidence for behavior change was greater for interventions focusing on physical activity, there were no meaningful differences in intermediate or overall health outcomes. After reviewing the evidence, the USPSTF reaffirmed its conclusion that there is a positive but small benefit of behavioral counseling interventions to promote a healthful diet, physical activity, or both in persons who do not have cardiovascular disease (CVD) risk factors. Patients and health care professionals can decide together, based on patient interest and the availability of local resources, whether a focus on a healthful diet, physical activity, or both is most appropriate. Several comments agreed with the USPSTF's inclusion of language reinforcing the established benefits of healthful lifestyle behaviors and encouraged better definition of the nature of behavioral counseling interventions. The USPSTF retained its emphasis that all patients can gain health benefits from a healthful diet and appropriate physical activity and added language defining both. The USPSTF also clarified that the recommended behavioral counseling interventions are more intensive than just general promotion of a healthful diet and physical activity.

Comparison with Guidelines from Other Groups

Recommendations for behavioral counseling for healthful diet and physical activity for cardiovascular disease prevention in adults without known risk factors were considered from the following groups: the Community Preventive Services Task Force, the American Heart Association, and the American Academy of Family Physicians.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of evidence supporting the recommendations is not specifically stated.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Benefits of Behavioral Counseling Interventions

The U.S. Preventive Services Task Force (USPSTF) found adequate evidence that behavioral counseling interventions provide at least a small benefit for reduction of cardiovascular disease (CVD) risk in adults without obesity who do not have the common risk factors for CVD (hypertension, dyslipidemia, abnormal blood glucose levels, or diabetes). Behavioral counseling interventions have been found to improve healthful behaviors, including beneficial effects on fruit and vegetable consumption, total daily caloric intake, salt intake, and physical activity levels. Behavioral counseling interventions led to improvements in systolic and diastolic blood pressure levels, low-density lipoprotein cholesterol (LDL-C) levels, body mass index (BMI), and waist circumference that persisted over 6 to 12 months. The USPSTF found inadequate direct evidence that behavioral counseling interventions lead to a reduction in mortality or CVD rates.

Potential Harms

Harms of Behavioral Counseling Interventions

The U.S. Preventive Services Task Force (USPSTF) found adequate evidence that the harms of behavioral counseling interventions are small to none. Among 14 trials of behavioral interventions that reported on adverse events, none reported any serious adverse events.

Qualifying Statements

Qualifying Statements

- The U.S. Preventive Services Task Force (USPSTF) makes recommendations about the effectiveness of specific clinical preventive services for patients without obvious related signs or symptoms.
- It bases its recommendations on the evidence of both the benefits and harms of the service and an assessment of the balance. The USPSTF does not consider the costs of providing a service in this assessment.
- The USPSTF recognizes that clinical decisions involve more considerations than evidence alone. Clinicians should understand the evidence but individualize decision making to the specific patient or situation. Similarly, the USPSTF notes that policy and coverage decisions involve considerations in addition to the evidence of clinical benefits and harms.
- Recommendations made by the USPSTF are independent of the U.S. government. They should not be construed as an official position of Agency for Healthcare Research and Quality (AHRQ) or the U.S. Department of Health and Human Services.

Implementation of the Guideline

Description of Implementation Strategy

The experiences of the first and second U.S. Preventive Services Task Force (USPSTF), as well as that of other evidence-based guideline efforts, have highlighted the importance of identifying effective ways to implement clinical recommendations. Practice guidelines are relatively weak tools for changing clinical practice when used in isolation. To effect change, guidelines must be coupled with strategies to improve their acceptance and feasibility. Such strategies include enlisting the support of local opinion leaders, using reminder systems for clinicians and patients, adopting standing orders, and audit and feedback of information to clinicians about their compliance with recommended practice.

In the case of preventive services guidelines, implementation needs to go beyond traditional dissemination and promotion efforts to recognize the added patient and clinician barriers that affect preventive care. These include clinicians' ambivalence about whether preventive medicine is part of their job, the psychological and practical challenges that patients face in changing behaviors, lack of access to health care or of insurance coverage for preventive services for some patients, competing pressures within the context of shorter office visits, and the lack of organized systems in most practices to ensure the delivery of recommended preventive care.

Dissemination strategies have changed dramatically in this age of electronic information. While recognizing the continuing value of journals and other print formats for dissemination, the USPSTF will make all its products available through its Web site . The combination of electronic access and extensive material in the public domain should make it easier for a broad audience of users to access USPSTF materials and adapt them for their local needs. Online access to USPSTF products also opens up new possibilities for the appearance of the annual, pocket-size *Guide to Clinical Preventive Services.*

To be successful, approaches for implementing prevention have to be tailored to the local level and deal with the specific barriers at a given site, typically requiring the redesign of systems of care. Such a systems approach to prevention has had notable success in established staff-model health maintenance organizations, by addressing organization of care, emphasizing a philosophy of prevention, and altering the training and incentives for clinicians. Staff-model plans also benefit from integrated information systems that can track the use of needed services and generate automatic reminders aimed at patients and clinicians, some of the most consistently successful interventions. Information systems remain a major challenge for individual clinicians' offices, however, as well as for looser affiliations of practices in network-model managed care and independent practice associations, where data on patient visits, referrals, and test results are not always centralized.

Implementation Tools

Mobile Device Resources

Patient Resources

Pocket Guide/Reference Cards

Quick Reference Guides/Physician Guides

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Staying Healthy

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

Final recommendation statement: healthful diet and physical activity for cardiovascular disease prevention in adults without known risk factors: behavioral counseling. [internet]. Rockville (MD): U.S. Preventive Services Task Force (USPSTF); 2017 Jul [7 p]. [24 references]

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2017 Jul

Guideline Developer(s)

U.S. Preventive Services Task Force - Independent Expert Panel

Guideline Developer Comment

The U.S. Preventive Services Task Force (USPSTF) is a federally-appointed panel of independent experts. Conclusions of the USPSTF do not necessarily reflect policy of the U.S. Department of Health and Human Services (DHHS) or its agencies.

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Financial Disclosures/Conflicts of Interest

The U.S. Preventive Services Task Force (USPSTF) has an explicit policy concerning conflict of interest. All members disclose at each meeting if they have a significant financial, professional/business, or intellectual conflict for each topic being discussed. USPSTF members with conflicts may be recused from discussing or voting on recommendations about the topic in question.

Disclosures

All authors have completed and submitted the International Committee of Medical Journal Editors (ICMJE) Form for Disclosure of Potential Conflicts of Interest. Authors followed the policy regarding conflicts of interest described at https://www.uspreventiveservicestaskforce.org/Page/Name/conflict-of-interest-disclosures. All members of the USPSTF receive travel reimbursement and an honorarium for participating in USPSTF meetings. No other disclosures are reported.

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: U.S. Preventive Services Task Force. Behavioral counseling interventions to promote a healthful diet and physical activity for cardiovascular disease prevention in adults: U.S. Preventive Services Task Force recommendation statement. Ann Intern Med. 2012;157(5):367-71.

This guideline meets NGC's 2013 (revised) inclusion criteria.

Guideline Availability

Available from the U.S. Preventive Services Task Force (USPSTF) Web site.

Availability of Companion Documents

The following are available:

Evidence Reviews:

Patnode CD, Evans CV, Senger CA, Redmond N, Lin JS. Behavioral counseling to promote a healthful diet and physical activity for cardiovascular disease prevention in adults without known cardiovascular disease risk factors: updated evidence report and systematic review for the US Preventive Services Task Force. JAMA. 2017;318(2):175-93.
Patnode CD, Evans CV, Senger CA, Redmond N, Lin JS. Behavioral counseling to promote a healthful diet and physical activity for cardiovascular disease prevention in adults without known cardiovascular disease risk factors: updated evidence report and systematic review for the US Preventive Services Task Force. Evidence Synthesis No. 152. AHRQ Publication No. 15-05222-EF-1. Rockville (MD): Agency for Healthcare Research and Quality; 2017 Jul. 315 p.

Available from the U.S. Preventive Services Task Force (USPSTF) Web site.

The following is also available:

Behavioral counseling to promote a healthful diet and physical activity for cardiovascular disease prevention in adults without cardiovascular risk factors. Clinical summary. Rockville (MD): U.S. Preventive Services Web (USPSTF); 2017 Jul. 1 p. Available from the USPSTF Web site .

The Electronic Preventive Services Selector (ePSS) is an application designed to provide primary care clinicians and health care teams timely decision support regarding appropriate screening, counseling and preventive services for their patients. It is based on the current, evidence-based recommendations of the USPSTF and can be searched by specific patient characteristics such as age, sex, and selected behavioral risk factors.

Patient Resources

Myhealthfinder is a new tool that provides personalized recommendations for clinical preventive services specific to the user's age, gender, and pregnancy status. It features evidence-based recommendations from the USPSTF and is available at www.healthfinder.gov .

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

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